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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,221	09/28/2001	Thomas S. Laubner	17655	5888

7590 01/15/2003

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EXAMINER

WIMER, MICHAEL C

ART UNIT PAPER NUMBER

2821

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/966,221

Applicant(s)

LAUBNER ET AL.

Examiner

Michael C. Wimer

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,8,15 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Niehenke (5201065).

Regarding Claims 1,8,15 and 18, Niehenke shows in Figures 2 and 5, a microstrip antenna 100 and a method of providing therefor, comprising a first conductive ground plane 130, a dielectric substrate 102 disposed on the ground plane 130, a patch 114 disposed on the dielectric substrate 102, a feed means 116 for electrically feeding the patch, and a dielectric lens 142 for encapsulating at least a portion of the patch (top portion) to increase radiation gain at low angles, all arranged as claimed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-7,9-14,16,17 and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niehenke in view of Nichols et al (5691726).

Niehenke is discussed above. Regarding Claims 2-7,9-14,16,17 and 19-23, Nichols shows in Figure 5, for example, a second ground plane 122 or 36 between the ground plane 122 and patch 34, and a space is created between the ground planes for providing additional elements therein. An additional antenna element, monopole 126 is shown disposed through the patch 34. It would have been obvious to the skilled artisan to employ the antenna arrangement of Nichols in lieu of that in Niehenke for the purpose of providing multi-band operation. Niehenke also shows the lens 142 as a dome and an air gap between the lens and patch. Nichols also shows the dielectric cap 120 surrounding the monopole 126 and a feed pin 38 is shown to be obvious in lieu of a corporate feed network or strip line feeder.

5. The patent to Lim (6219002) is cited as of interest showing a dielectric lens 700 encapsulating a microstrip/ring-slot antenna in Fig. 7

Response to Arguments

6. Applicant's arguments filed 11-04-2002 have been fully considered but they are not persuasive. Specifically, applicant's arguments are persuasive to the previous indefiniteness rejection and therefore it has been withdrawn. Applicant's arguments to the Niehenke are not persuasive because the lens 142 therein provides all of the alleged objectives as claimed. Claim 1 does not preclude the use of a single lens in front of the microstrip patch array in order to focus low angle radiation. There would be no reason to focus radiation from the zenith/boresight direction because the cavity structure 138 and its aperture provides a direct "line-of-sight" of the zenith direction.

Absent any additional structure and definition of structure of the lens and antenna, the focused microstrip antenna of Niehenke is applicable in the claimed invention. The anticipation rejection stands. A second ground plane is not an issue in Claim 1, and therefore applicant's argument is not commensurate with the scope of the claim at hand. The Nichol's reference shows the lens completely covering the patch and substrate, as claimed. If applicant deems the lens and ground plane 24 and space 22 to provide a specific low-angle radiation beam, then such specific structure should be recited in the independent claim. The obviousness rejection stands.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

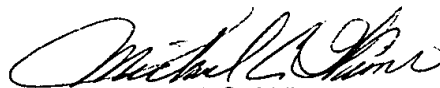
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (703) 305-3555. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on (703) 308-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Michael C. Wimer
Primary Examiner
Art Unit 2821

MCW
January 7 2003